REMARKS/ARGUMENT

Claims 1-13 and 16-22 were examined in the most recent Office Action. Claims 16-19 are withdrawn from consideration. Claims 1-13 and 20-21 are rejected. Claims 16-19 are cancelled. Claims 1, 3-4, 9 and 20 are amended. Accordingly, claims 1-13 and 20-22 are pending in the present application.

Claim Rejections-35 U.S.C. §112

Claims 1-3 and 9 are rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention. In particular, the Office Action states that the conductivity type of the channel should be specified with particularity, and antecedent basis should be corrected.

Applicant has amended claims 1, 3 and 9 to overcome the rejection. In particular, the material used in constructing the channel is described with particularity. The limitation in claim 9 stated as lacking antecedent basis is deleted.

Applicant believes that the rejection of claims 1-3 and 9 is now overcome, and respectfully requests that the rejection be reconsidered and withdrawn.

Claim Rejections - 35 U.S.C. §102

Claims 1, 4 and 5 are rejected under 35 U.S.C. §102(e) as being anticipated by Floyd et al. (U.S. Patent No. 6,069,043). In particular, the Office Action states that Floyd et al. disclose all of the elements recited in claims 1, 4 and 5.

Applicant submits that a rejection under 35 U.S.C. §102 can be overcome if it can be shown that the claims contain at least one element not disclosed or shown in the cited prior art references. Among elements and limitations neither disclosed nor shown in the cited reference, Applicant submits that there is no showing of a trench type power MOSFET having an N type channel region and a gate contact region that is composed of P type material. Because claim 1, 4 and 5 recite elements that are neither shown nor disclosed in the cited reference, Applicant believes that the rejection of claims 1, 4 and 5 under 35 U.S.C. §102(e) is overcome. Accordingly, Applicant

respectfully requests that the rejection of claims 1, 4 and 5 under 35 U.S.C. §102(e) as being anticipated by Floyd et al. be reconsidered and withdrawn.

Claim Rejections - 35 U.S.C. §103

Claims 2, 3, 6-13 and 20-22 are rejected under 35 U.S.C. §103(a) as being obvious over Floyd et al. In particular, the Office Action states that Floyd et al. disclose an N-P-N polarity type MOSFET. The Office Action further states that it is well known in the art that a MOSFET design of one polarity type also normally works under a reverse polarity type device. Applicant respectfully traverses the rejection.

With regard to the statement in the Office Action that a MOSFET of one polarity type also normally functions when constructed according to an opposite polarity type, Applicant notes that a change in polarity raises further problems or provokes disadvantages that are known or must usually be solved by one of ordinary skill in the art. For example, as stated in the Background of the Invention provided in the specification, P- and – channel devices differ in complexity, power consumption and carrier mobility (page 2, lines 7-23). Accordingly, Applicant submits that even if the device disclosed by Floyd et al. were modified to be of opposite polarity, as suggested in the Office Action, one of ordinary skill in the art would still be left with a number of problematic issues to overcome before approaching the device disclosed in the present invention, as recited in claims 1, 4 and 9. Indeed, Applicant respectfully contends that because of known problems converting a MOSFET of one polarity type to a device having a different polarity, as discussed above, an artisan of ordinary skill would expect to confront problems raised in such a conversion, and any advantages would be speculative at best.

Applicant further submits that if the MOSFET structure suggested by the Office Action were obvious in view of the disclosure by Floyd et al., then such a structure would have been readily devised and explained by Floyd et al. or others of ordinary skill in the art. Due to this lack of explanation or showing existing in the prior art, Applicant submits that the present invention recited in claims 1, 4 and 9 is unobvious in view of the prior art. Because the device of the present invention is neither disclosed nor suggested in any of the cited prior art references, Applicant

respectfully believes that one of ordinary skill in the art would be surprised to learn the advantages of the present invention recited in claims 1, 4 and 9.

Moreover, Applicant respectfully submits that the novel approach taken in arriving at the present invention produces surprising results that one of ordinary skill in the art would not be able to learn from an examination of the prior art references. For example, as noted in the specification, the structure of the MOSgated device permits the use of a lower gate voltage that has a lower R_{DSON} by virtue of being a P- channel trench type MOSFET (page 7, lines 4-9). Additionally, the uniform, low concentration of the material in the channel permits a reduced threshold voltage, and allows the device to fully turn on with a voltage of about 2.5 volts (page 7, line 29-page 8, line 4).

Because the present invention obtains these advantages while maintaining a simple structure that produces further advantages in manufacture, Applicant submits that claims 1, 4 and 9 recite a novel structure that produces surprising results neither disclosed nor suggested in the cited prior art reference. Accordingly, Applicant believes that claims 1, 4 and 9 should be allowable over the cited prior art reference. In addition, Applicant respectfully believes that the rejection of claims 2, 3, 6-8, 10-13 and 20-22 should now be overcome, because each of these claims depend upon independent claims thought to be allowable, and therefore include all of the subject matter of the independent claims, in addition to reciting further limitations in their own right. Applicant thus respectfully requests that the rejection of claims 2, 3, 6-13 and 20-22 under 35 U.S.C. §103(a) be reconsidered and withdrawn.

Conclusion

Applicant respectfully believes that the foregoing is a complete response to all issues raised in the most recent Office Action. This response is believed to place the present application in condition for allowance by clarifying the subject matter that Applicant believes constitutes the invention. This response is thought not to raise any new issues, or require any further searching, but rather is in compliance with the goal of completing prosecution to achieve allowance of the application. In addition, Applicant has cancelled claims drawn to a method of the present invention to further narrow issues under consideration. Accordingly, entry of this amendment as placing the claims in condition for allowance is earnestly solicited. In the alternative, Applicant respectfully requests that the amendment be entered as narrowing the issues remaining with regard to rejection of

the claims for purposes of appeal. The Examiner is respectfully requested to contact the undersigned counsel at the number provided below, to resolve or further clarify any outstanding issues in the present application.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, on April 26, 2001

Brendan J. Kennedy

Name of applicant, assignee or Registered Representative

Brendan J Kennedy

Signature

April 26, 2001

Date of Signature

Respectfully submitted,

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